EXHIBIT A

I claim:

1. Apparatus for determining the present location of a missing vehicle, the apparatus comprising:

a GPS signal antenna and receiver/processor, connected to the antenna, attached to a vehicle, to receive and process GPS signals to determine the present location of the vehicle to which the antenna and receiver/processor are attached;

an event sensor that determines when a selected trigger event involving the vehicle has occurred and issuing a sensor output signal when that event occurs;

controller means, connected to the GPS receiver/-processor and to the event sensor, for receiving the event sensor output signal and, in response thereto, for issuing a first output signal that is received by the GPS receiver/processor that commands the receiver/processor to determine and issue as an output signal the present location of the receiver/-processor, and for receiving the receiver/processor output signal representing present location of the receiver/processor and issuing this present location information as a second output signal;

a cellular telephone, connected to the controller means, for receiving the controller means second output signal and, in response thereto, for transmitting the controller means second output signal to a selected telephone number; and

a power supply to deliver electrical power to at least one of the receiver/processor, the event sensor, the controller means and the cellular transmitter,

where the receiver/processor, the event sensor, the controller means, and the cellular telephone are all carried on the vehicle whose present location is to be determined.

2. The apparatus of claim 1, wherein the presence of at least one of said antenna, said receiver/processor and said cellular telephone is concealed on said vehicle.

3. A method for determining the present location of a missing vehicle, the method comprising the steps of:

providing a vehicle with a vehicle location signal receiver/processor that receives position location signals from two or more location-sensing sensors located on the vehicle and uses these signals to determine the present location of the vehicle on which the antenna and the receiver/processor are located, where the receiver/processor comprises:

a plurality of gyroscopes and associated vehicle angular orientation sensors attached to the vehicle to determine and issue output signals indicating the present angular orientation of the vehicle;

a vehicle velocity sensor to determine and issue an output signal indicating the present velocity of the vehicle; and

a signal processor that receives the output signals from the vehicle angular orientation sensors and the vehicle velocity sensor and determines the present location of the vehicle from these signals;

providing the vehicle with a page responder to respond to a page request broadcast by a vehicle location service or paging service;

providing the vehicle with a cellular telephone that may be activated to place a telephone call to a selected telephone number;

providing the vehicle with a controller/modem that is electrically connected to, and controls the operation of, the receiver/processor, the page responder and the cellular telephone;

when the vehicle is determined to be missing, causing the vehicle location service or paging service to broadcast a page requesting the present location of the missing vehicle;

causing the page responder in the vehicle to receive the page request and, in response thereto, to cause the controller/modem to interrogate the receiver/processor concerning the present location of the vehicle;

causing the receiver/processor to obtain information on the present location of the missing vehicle and to provide this information for the controller/modem; and

causing the controller/modem to cause the cellular telephone to contact a selected vehicle location service or paging service and to communicate information on the vehicle present location to the vehicle location service or paging service,

whereby information on the present location of the vehicle is made available to an owner or operator of the missing vehicle.

4. A method for determining the present location of a missing vehicle, the method comprising the steps of:

providing a vehicle with a vehicle location signal receiver/processor that receives position location signals from two or more location-sensing sensors located on the vehicle and uses these signals to determine the present location of the vehicle on which the antenna and the receiver/processor are located, where the receiver/processor comprises:

a plurality of local magnetic field angular orientation sensors attached to the vehicle to determine and issue output signals indicating the present angular orientation of the vehicle;

a vehicle velocity sensor to determine and issue an output signal indicating the present velocity of the vehicle; and

a signal processor that receives the output signals from the vehicle angular orientation sensors and the vehicle velocity sensor and determines the present location of the vehicle from these signals;

providing the vehicle with a page responder to respond to a page request broadcast by a vehicle location service or paging service;

providing the vehicle with a cellular telephone that may be activated to place a telephone call to a selected telephone number;

providing the vehicle with a controller/modem that is electrically connected to, and controls the operation of, the receiver/processor, the page responder and the cellular telephone;

when the vehicle is determined to be missing, causing the vehicle location service or paging service to broadcast a page requesting the present location of the missing vehicle;

causing the page responder in the vehicle to receive the page request and, in response thereto, to cause the controller/modem to interrogate the receiver/processor concerning the present location of the vehicle;

causing the receiver/processor to obtain information on the present location of the missing vehicle and to provide this information for the controller/modem; and

causing the controller/modem to cause the cellular telephone to contact a selected vehicle location service or paging service and to communicate information on the vehicle present location to the vehicle location service or paging service,

whereby information on the present location of the vehicle is made available to an owner or operator of the missing vehicle.

5. A method for determining the present location of a missing vehicle, the method comprising the steps of:

providing a vehicle with a vehicle location signal receiver/processor that receives position location signals from two or more location-sensing sensors located on the vehicle and uses these signals to determine the present location of the vehicle on which the antenna and the receiver/processor are located, where the receiver-processor comprises:

a plurality of gyroscopes and associated vehicle angular orientation sensors attached to the vehicle to determine and issue output signals indicating the present angular orientation of the vehicle;

a vehicle velocity sensor to determine and issue an output signal indicating the present velocity of the vehicle; and

a signal processor that receives the output signals from the vehicle angular orientation sensors and

the vehicle velocity sensor and determines the present location of the vehicle from these signals;

providing the vehicle with an event sensor to sense occurrence of a selected vehicle trigger event involving the vehicle;

providing the vehicle with a cellular telephone that may be activated to place a telephone call to a selected telephone number;

providing the vehicle with a controller/modem that is electrically connected to, and controls the operation of, the receiver/processor, the event sensor and the cellular telephone;

when the sensor determines that a vehicle trigger event has occurred, causing the controller/modem to interrogate the receiver/processor concerning the present location of the vehicle;

causing the receiver/processor to obtain information on the present location of the vehicle and to provide this information for the controller/modem; and

causing the controller/modem to cause the cellular telephone to contact a selected vehicle location service or paging service and to communicate information on the vehicle present location to the vehicle location service or paging service,

whereby information on the present location of the vehicle is made available to an owner or operator of the vehicle.

6. A method for determining the present location of a missing vehicle, the method comprising the steps of:

providing a vehicle with a vehicle location signal receiver/processor that receives position location signals from two or more location-sensing sensors located on the vehicle and uses these signals to determine the present location of the vehicle on which the antenna and the receiver/processor are located, where the receiver-processor comprises:

a plurality of local magnetic field angular orientation sensors attached to the vehicle to determine and issue output signals indicating the present angular orientation of the vehicle;

a vehicle velocity sensor to determine and issue an output signal indicating the present velocity of the vehicle; and

a signal processor that receives the output signals from the vehicle angular orientation sensors and the vehicle velocity sensor and determines the present location of the vehicle from these signals;

providing the vehicle with an event sensor to sense occurrence of a selected vehicle trigger event involving the vehicle;

providing the vehicle with a cellular telephone that may be activated to place a telephone call to a selected telephone number;

providing the vehicle with a controller/modem that is electrically connected to, and controls the operation of, the receiver/processor, the event sensor and the cellular telephone;

when the sensor determines that a vehicle trigger event has occurred, causing the controller/modem to interrogate the receiver/processor concerning the present location of the vehicle;

causing the receiver/processor to obtain information on the present location of the vehicle and to provide this information for the controller/modem; and

causing the controller/modem to cause the cellular telephone to contact a selected vehicle location

service or paging service and to communicate information on the vehicle present location to the vehicle location service or paging service,

whereby information on the present location of the vehicle is made available to an owner or operator of the vehicle.

7. A method for determining the present location of a missing vehicle, the method comprising the steps of:

providing a vehicle with a LORAN signal antenna and receivet/processor, connected to the antenna, where the antenna and receiver/processor receive time-coded LORAN signals from a plurality of LORAN signal transmitters and determine the location of a selected vehicle vehicle location from these signals;

providing the vehicle with a page responder to respond to a page request broadcast by a vehicle location service or paging service;

providing the vehicle with a cellular telephone that may be activated to place a telephone call to a selected telephone number;

providing the vehicle with a controller/modem that is electrically connected to, and controls the operation of, the receiver/processor, the page responder and the cellular telephone;

when the vehicle is determined to be missing, causing the vehicle location service or paging service to broadcast a page requesting the present location of the missing vehicle;

causing the page responder in the vehicle to receive the page request and, in response thereto, to cause the controller/modem to interrogate the receiver/-processor concerning the present location of the vehicle;

causing the LORAN signal receiver/processor to obtain information on the present location of the vehicle and to provide this information for the controller/modem; and

causing the controller/modem to cause the cellular telephone to contact a selected vehicle location service or paging service and to communicate information on the vehicle present location to the vehicle location service or paging service,

whereby information on the present location of the vehicle is made available to an owner or operator of the missing vehicle.

8. The method of claim 7, further comprising the step of concealing the presence of at least one of said antenna, said receiver/processor and said cellular telephone on said vehicle.

9. The method of claim 7, further comprising the step of decoding said vehicle present location information received by said vehicle location service or paging service.

10. The method of claim 7, further comprising the step of causing said cellular telephone to communicate said present location information for said vehicle at least twice in response to receipt of said page request by said controller/modem.

11. The method of claim 7, further comprising the step of causing said cellular telephone to communicate said present location information for said vehicle once in response to receipt of said page request by said controller/modem.

12. The method of claim 7, further comprising the step of displaying said present location of said vehicle on a map or visual display after said present location

information is received by said vehicle location service or paging service.

13. The method of claim 7, further comprising the step of causing said receiver/processor to occupy an inactive mode and to reduce its electrical power consumption, except when responding to receipt of said interrogation from said controller/modem.

14. The method of claim 13, further comprising the step of periodically activating said receiver/processor for a selected time interval and causing said receiver/processor to redetermine its present location.

15. The method of claim 7, further comprising the step of concealing the presence of at least one of said receiver/processor, said antenna and said cellular telephone on said vehicle.

16. The method of claim 7, further comprising the step of choosing said vehicle location signal antenna and receiver/processor to be a GPS signal antenna and receiver/processor that receive time-coded GPS signals from one or more satellites and determine said vehicle location from these signals.

17. A method for determining the present location of a vehicle that has been moved or tampered with in an unauthorized manner, the method comprising the steps of:

providing a vehicle with a vehicle location signal antenna and receiver/processor, connected to the antenna, where the vehicle location signal antenna and receiver/processor are drawn from the class consisting of (i) a GPS signal antenna and receiver/processor that receive time-coded GPS signals from one or more satellites and determine the present location of a selected vehicle from these signals and (ii) a LORAN signal antenna and receiver/processor that receive time-coded LORAN signals from a plurality of LORAN signal transmitters and determine the present location of a selected vehicle from these signals;

providing the vehicle with an event sensor to sense occurrence of a selected vehicle trigger event involving the vehicle;

providing the vehicle with a cellular telephone that may be activated to place a telephone call to a selected telephone number;

providing the vehicle with a controller/modem that is electrically connected to, and controls the operation of, the receiver/processor, the event sensor and the cellular telephone;

when the sensor determines that a vehicle trigger event has occurred, causing the controller/modem to interrogate the receiver/processor concerning the present location of the vehicle;

causing the receiver/processor to obtain information on the present location of the vehicle and to pro-

vide this information for the controller/modem; and

causing the controller/modem to cause the cellular telephone to contact a selected vehicle location service or paging service and to communicate information on the vehicle present location to the vehicle location service or paging service,

whereby information on the present location of the vehicle is made available to an owner or operator of the vehicle.

18. The method of claim 17, further comprising the step of concealing the presence of at least one of said antenna, said receiver/processor and said cellular telephone on said vehicle.

19. The method of claim 17, further comprising the step of choosing, as said vehicle trigger event, the unauthorized movement of said vehicle, as sensed by said event sensor.

20. The method of claim 17, further comprising the steps of:

choosing as said event sensor a vehicle security alarm that senses occurrence of an unauthorized action affecting said vehicle; and

choosing, as said trigger event, activation of this security alarm.

21. The method of claim 17, further comprising the step of decoding said vehicle present location information received by said vehicle location service or paging service.

22. The method of claim 17, further comprising the step of causing said cellular telephone to communicate said present location information for said vehicle at least twice in response to occurrence of said vehicle trigger event.

23. The method of claim 17, further comprising the step of causing said cellular telephone to communicate said present location information for said vehicle once in response to occurrence of said vehicle trigger event.

24. The method of claim 17, further comprising the step of displaying said present location of said vehicle on a map or other visual display after said present location information is received by said vehicle location service or paging service.

25. The method of claim 17, further comprising the step of causing said receiver/processor to occupy an inactive mode and to reduce its electrical power consumption, except when responding to receipt of said interrogation from said controller/modem.

26. The method of claim 25, further comprising the step of periodically activating said receiver/processor for a selected time interval and causing said receiver/processor to redetermine its present location.

27. The method of claim 17, further comprising the step of concealing the presence of at least one of said antenna, said receiver/processor and said cellular telephone on said vehicle.

28. A method of disclosing the present location of a vehicle, the method comprising the steps of:

performing in-vehicle processing of signals to obtain a fix of vehicle location;

employing a paging request responder to receive a paging request; and,

in response to the paging request, employing a communications device separate from, and for operation independent of, the paging request responder to transmit the fix to a designated service center.

29. A method of disclosing the present location of a vehicle, the method comprising the steps of:

employing a paging request responder to receive a paging request; and,

in response to the paging request, performing in-vehicle processing of signals to obtain a fix of vehicle location and employing a communications device separate from, and for operation independent of, the paging request responder to transmit the fix to a designated service center.

30. Apparatus for disclosing the present location of a vehicle, the apparatus comprising:

means for performing in-vehicle processing of signals to obtain a fix of vehicle location;

a paging request responder for receiving a paging request; and

a communications device separate from, and for operation independent of, the paging request responder and responsive to the paging request for transmitting the fix to a designated service center.

31. Apparatus for disclosing the present location of a vehicle, the apparatus comprising:

a paging request responder for receiving a paging request;

means responsive to the paging request for performing in-vehicle processing of signals to obtain a fix of vehicle location; and

a communications device separate from, and for operation independent of, the paging request responder for transmitting the fix to a designated service center.

32. A method of determining the present location of a vehicle, the method comprising the steps of:

initiating a paging request for transmission to a paging request responder mounted in or on the vehicle; and,

in response to the paging request, activating a communications device separate from, and for operation independent of, the paging request responder and mounted in or on the vehicle to transmit a fix of vehicle location.

33. Apparatus for determining the present location of a vehicle, the apparatus comprising:

means for transmitting a paging request to a paging request responder mounted in or on the vehicle; and

means responsive to the paging request for activating a communications device separate from, and for operation independent of, the paging request responder and mounted in or on the vehicle to transmit a fix of a vehicle location.

34. A method according to claim 28 comprising the step of receiving the signals for in-vehicle processing from a plurality of satellites.

35. A method according to claim 28 comprising the step of receiving the signals for in-vehicle processing from a plurality of GPS satellites.

36. A method according to claim 29 comprising the step of receiving the signals for in-vehicle processing from a plurality of satellites.

37. A method according to claim 29 comprising the step of receiving the signals for in-vehicle processing from a plurality of GPS satellites.

38. A method according to claim 28 comprising the step of transmitting the fix using a cellular telephone.

39. A method according to claim 29 comprising the step of transmitting the fix using a cellular telephone.

40. Apparatus according to claim 30 wherein the means for performing in-vehicle processing comprises means for receiving signals from a plurality of satellites.

41. Apparatus according to claim 30 wherein the means for performing in-vehicle processing comprises means for receiving signals from a plurality of GPS satellites.

42. Apparatus according to claim 31 wherein the means for performing in-vehicle processing comprises means for receiving signals from a plurality of satellites.

43. Apparatus according to claim 31 wherein the means for performing in-vehicle processing comprises means for receiving signals from a plurality of GPS satellites.

44. Apparatus according to claim 30 wherein the means for transmitting the fix comprises a cellular telephone.

45. Apparatus according to claim 31 wherein the means for transmitting the fix comprises a cellular telephone.

46. A method according to claim 28 comprising the further steps of notifying police or an owner or authorized operator of the vehicle of the present location of the vehicle.

47. A method according to claim 29 comprising the further step of notifying police or an owner or authorized operator of the vehicle of the present location of the vehicle.

48. Apparatus according to claim 30 further comprising means for notifying police or an owner or authorized operator of the vehicle of the present location of the vehicle.

49. Apparatus according to claim 31 further comprising means for notifying police or an owner or authorized operator of the vehicle of the present location of the vehicle.

50. A method of disclosing the present location of a vehicle, the method comprising the steps of:

performing in-vehicle processing of signals to obtain a fix of vehicle location;

employing a noncellular paging request responder to receive a paging request; and,

in response to the paging request, activating a cellular communications device to transmit the fix to a designated service center.

51. Apparatus for disclosing the present location of a vehicle, the apparatus comprising:

means for performing in-vehicle processing of signals to obtain a fix of vehicle location;

a noncellular paging request responder for receiving a paging request; and

a cellular communications device responsive to the paging request for transmitting the fix to a designated service center.

52. A method of determining the present location of a vehicle, the method comprising the steps of:

initiating a paging request for transmission to a noncellular paging request responder mounted in or on the vehicle; and,

in response to the paging request, activating a cellular communications device mounted in or on the vehicle to transmit a fix of vehicle location.

53. Apparatus for determining the present location of a vehicle, the apparatus comprising:

means for transmitting a paging request to a noncellular paging request responder mounted in or on the vehicle; and

means responsive to the paging request for activating a cellular communications device mounted in or on the vehicle to transmit a fix of vehicle location.

54. Apparatus for disclosing a present location, the apparatus comprising:

means for processing signals to obtain a fix of location;

a paging request responder for receiving a paging request; and

a communications device separate from, and for operation independent of, the paging request responder and responsive to the paging request for transmitting the fix to a designated service center.

55. A method of determining a present location, the method comprising the steps of:

initiating a paging request for transmission to a paging request responder; and

in response to the paging request, activating a communications device separate from, and for operation independent of, the paging request responder to transmit a fix of the location.

56. Apparatus for disclosing a present location, the apparatus comprising:

means for processing signals to obtain a fix of location;

a noncellular paging request responder for receiving a paging request; and

a cellular communications device responsive to the paging request for transmitting the fix to a designated service center.

57. A method of determining a present location, the method comprising the steps of:

initiating a paging request for noncellular transmission to a paging request responder; and

in response to the paging request, activating a cellular communications device to transmit a fix of the location.

58. A method of disclosing the present location of a vehicle, the method comprising the steps of:

performing in-vehicle processing of signals to obtain a fix of vehicle location;

employing a paging request responder to receive a paging request; and,

in response to the paging request, employing a communications device for operation independent of the paging request responder to transmit the fix to a designated service center.

59. Apparatus for disclosing the present location of a vehicle, the apparatus comprising:

means for performing in-vehicle processing of signals to obtain a fix of vehicle location;

a paging request responder for receiving a paging request; and

a communications device for operation independent of the paging request responder and responsive to the paging request for transmitting the fix to a designated service center.